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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,793	09/12/2003	Chi-An Kao	TS01-1037	8353

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EXAMINER

NGUYEN, KHIEM D

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,793

Applicant(s)

KAO ET AL.

Examiner

Khiem D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-14 is/are allowed.
- 6) ☒ Claim(s) 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (U.S. Pub. 2005/0042523).

In re claim 8, Wu discloses a system for creation of an opening of controllable format through a layer of insulation material, comprising:

means for creating an opening (unlabeled) through a layer of etch resist material 8a provided over the surface of a layer of insulating material 6 having been deposited over the surface of a substrate 2 (pages 6-7, paragraph [0071] and FIGS. 1-2);

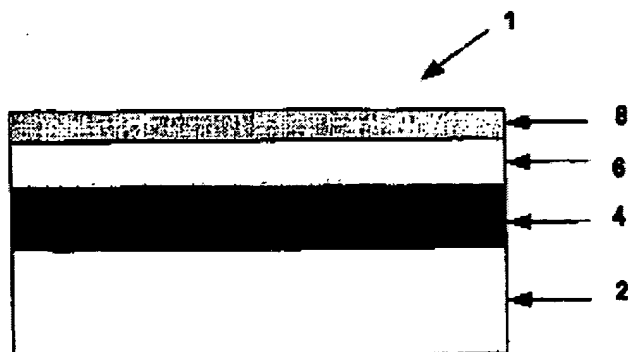
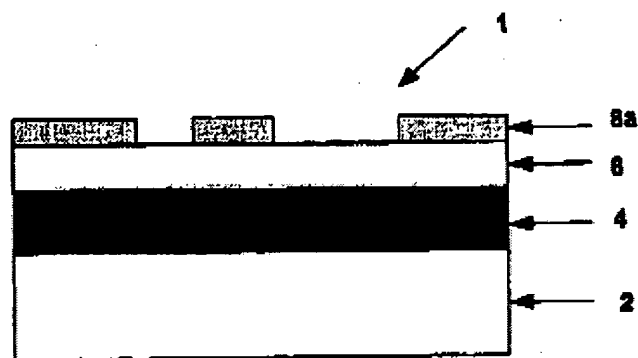
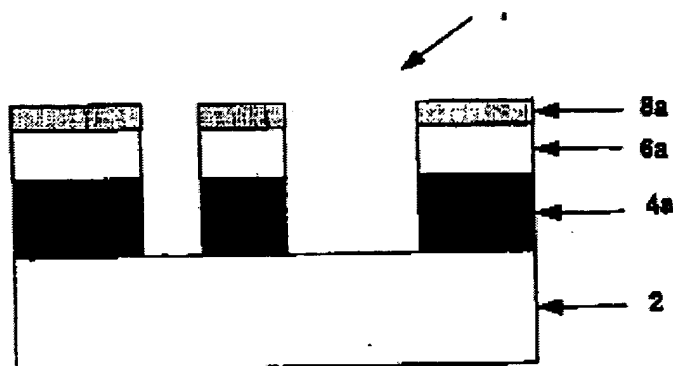


FIG. 1A

**FIG. 1B****FIG. 1C**

means, including a feedback mechanism, for assuring that the opening created through the layer of etch resist material is within design specification (page 3, paragraph [0019]);

means for creating an opening (unlabeled) through the layer of insulation material 6, whereby a diameter of the layer of insulation material is dependent on a diameter of the opening created through the layer of etch resist material (pages 6-7, paragraph [0071] and FIGS. 1-2); and

means, including a feedback mechanism, for assuring that the opening created through the layer of insulation material is within design specification (page 3, paragraph [0019]);

In re claim 9, **Wu** discloses means for assuring that the opening created through the layer of etch resist material is within design specification comprising: means for linking to a software supervisory function, thereby including data transmission functions, means for linking to a software function equally being linked to a software supervisory function, thereby including data transmission functions; means for data manipulating capabilities, thereby including manipulating interdependent data; means for interfacing with semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment; and means for creating instructions for the semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment (page 8, paragraph [0081]-[0083]).

In re claim 10, **Wu** discloses that means for assuring that the opening created through the layer of insulation material is within design specification comprising: means for linking to a software supervisory function, thereby including data transmission functions, means for linking to a software function equally being linked to a software supervisory function, thereby including data transmission functions; means for data manipulating capabilities, thereby including manipulating interdependent data; means for interfacing with semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment; and means for creating instructions for

the semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment (page 8, paragraph [0081]-[0083]).

In re claim 11, Wu discloses that the system of claim 8, further comprising means for creating an opening having non-linear sidewalls through a layer of insulation material by applying a high-polymer based etch to the surface of the layer of insulation material (page 1, paragraphs [0003]-[0005]).

2. Alternatively, Claims 8-11 are also rejected under 35 U.S.C. 102(e) as being anticipated by Lymberopoulos et al. (U.S. Pub. 2004/0092047).

In re claim 8, Lymberopoulos discloses a system for creation of an opening of controllable format through a layer of insulation material, comprising:

means for creating an opening (unlabeled) through a layer of etch resist material 250 provided over the surface of a layer of insulating material 240 having been deposited over the surface of a substrate 200 (pages 3-4, paragraphs [0032]-[0034] and FIGS. 1-3);

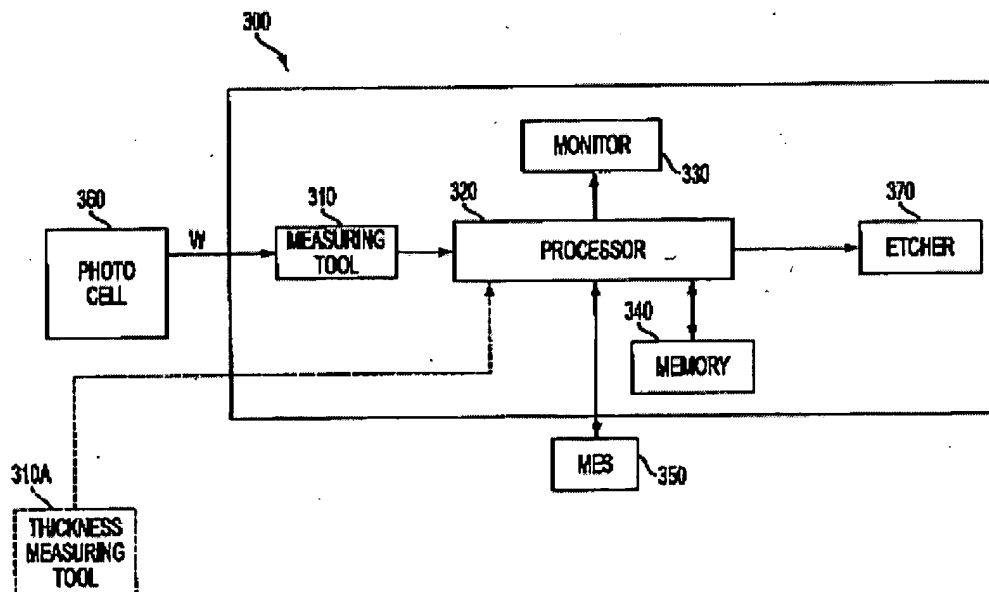


FIG. 1

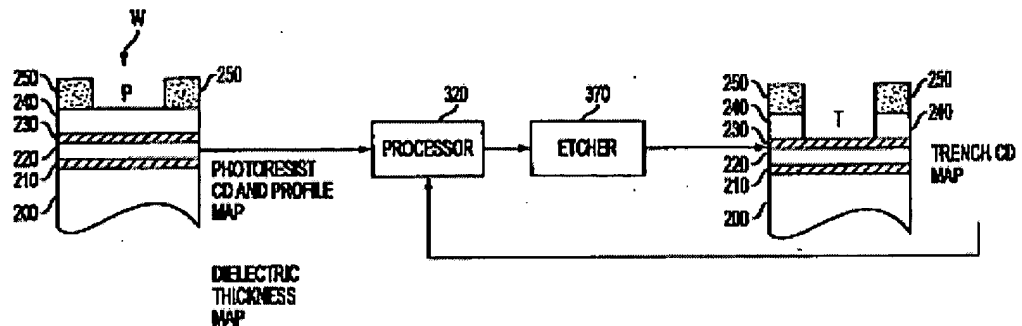


FIG. 2

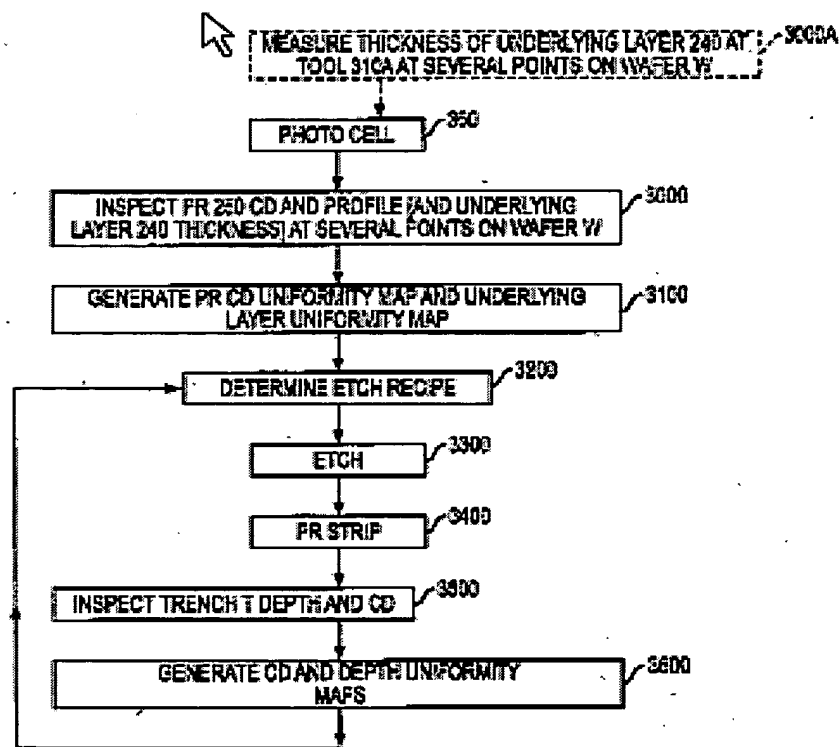


FIG. 3

means, including a feedback mechanism, for assuring that the opening created through the layer of etch resist material is within design specification (page 5, paragraph [0043] and page 6, paragraph [0054]);

means for creating an opening (unlabeled) through the layer of insulation material 240, whereby a diameter of the layer of insulation material is dependent on a diameter of

the opening created through the layer of etch resist material (pages 3-4, paragraphs [0032]-[0034] and FIGS. 1-3); and

means, including a feedback mechanism, for assuring that the opening created through the layer of insulation material is within design specification (page 5, paragraph [0043] and page 6, paragraph [0054]);

In re claim 9, Wu discloses means for assuring that the opening created through the layer of etch resist material is within design specification comprising: means for linking to a software supervisory function, thereby including data transmission functions, means for linking to a software function equally being linked to a software supervisory function, thereby including data transmission functions; means for data manipulating capabilities, thereby including manipulating interdependent data; means for interfacing with semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment; and means for creating instructions for the semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment (pages 3-4, paragraphs [0033]-[0038]).

In re claim 10, Wu discloses that means for assuring that the opening created through the layer of insulation material is within design specification comprising: means for linking to a software supervisory function, thereby including data transmission functions, means for linking to a software function equally being linked to a software supervisory function, thereby including data transmission functions; means for data manipulating capabilities, thereby including manipulating interdependent data; means for interfacing with semiconductor equipment, thereby including equipment functioning in a

supporting role to the semiconductor equipment; and means for creating instructions for the semiconductor equipment, thereby including equipment functioning in a supporting role to the semiconductor equipment (pages 3-4, paragraphs [0033]-[0038]).

In re claim 11, **Wu** discloses that the system of claim 8, further comprising means for creating an opening having non-linear sidewalls through a layer of insulation material by applying a high-polymer based etch to the surface of the layer of insulation material (page 5, paragraph [0046]).

Allowable Subject Matter

Claims 12-14 are allowed.

Response to Applicants' Amendment and Arguments

Applicant's arguments filed July 6th, 2005 have been fully considered but they are not persuasive.

Applicants contend that the reference Lymberopoulos (U.S. Pub. 2004/0092047) herein known as Lymberopoulos does not teach or suggest the claimed feature of "means, including a feedback mechanism, for assuring that the opening created through the layer of etch resist material is within design specification".

In response to Applicants' contention that Lymberopoulos does not teach or suggest the claimed feature of "means, including a feedback mechanism, for assuring that the opening created through the layer of etch resist material is within design specification", Examiner respectfully disagrees. Applicants are directed to FIG. 3, where Lymberopoulos disclosed the step of inspect the trench depth and critical dimension CD 3500 using the measuring tool 310 as disclosed in FIG. 1. This processes as disclosed by

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Lymberopoulos inherently assuring that the opening created through the layer of etch resist material 250 and the insulation material 240 is within design specification (page 4, paragraphs [0035]-[0036]).

For this reason, Examiner holds the rejection proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.
September 14th, 2005

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a series of loops and a final flourish.

W. DAVID COLEMAN
PRIMARY EXAMINER